



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx SIR 09.0129X issue No.:2

Status: **Current**

Certificate history:  
Issue No. 2 (2015-6-16)  
Issue No. 1 (2010-6-9)  
Issue No. 0 (2010-2-17)

Date of Issue: **2015-06-16** Page 1 of 5

Applicant: **Hohner Automation Limited**  
Units 14-16  
Whitegate Industrial Estate  
Wrexham LL13 8UG  
**United Kingdom**

Electrical Apparatus: **Series Type 'D' and 'T' Shaft Encoders**  
Optional accessory:

Type of Protection: **Flameproof, Dust and Increased Safety,**

Marking: **Series Type 'D'**  
Ex db IIC T6 Gb  
Ex db I Mb  
Ex tb IIIC Db T85°C  
(Ta -20°C to +60°C) Temperature Rating code 'E'  
(Ta -40°C to +60°C) Temperature Rating code 'L'

**Series Type 'T'**  
Ex db eb IIC T6 Gb  
Ex db eb I Mb  
Ex tb IIIC Db T85°C  
(Ta -20°C to +60°C) Temperature Rating code 'E'  
(Ta -40°C to +60°C) Temperature Rating code 'L'

Approved for issue on behalf of the IECEx  
Certification Body:

C Ellaby

Position:

Deputy Certification Manager

Signature:  
(for printed version)

Date:

2015-06-16

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SIRA Certification Service**  
CSA Group  
Unit 6, Hawarden Industrial Park  
Hawarden  
Deeside  
CH5 3US  
United Kingdom

**sira**  
CERTIFICATION





# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 09.0129X

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Issue No.: 2

Page 2 of 5

Manufacturer: **Hohner Automation Limited**  
Units 14-16  
Whitegate Industrial Estate  
Wrexham LL13 8UG  
United Kingdom

Additional Manufacturing location  
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2014-06</b> Edition: 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-31 : 2013</b> Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

[GB/SIR/ExTR10.0006/00](#)

[GB/SIR/ExTR10.0131/00](#)

[GB/SIR/ExTR15.0159/00](#)

#### Quality Assessment Report:

[GB/SIR/QAR06.0038/02](#)



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 09.0129X

Date of Issue: 2015-06-16

Issue No.: 2

Page 3 of 5

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The DXE Series Shaft Encoder is used to indicate shaft angle movement from an arbitrary datum. It operates on the Moiré fringe principle using a light source and radially graduated discs to produce two square-wave outputs. The phase difference between the two series pulses indicates the direction of shaft rotation and a marker pulse indicates complete revolutions of the shaft. The DXE Series Shaft Encoder is constructed from stainless steel and has the following three flamepaths:

1. A thread cable entry in the lid
2. A rotating joint between the body and shaft
3. A spigot joint between the lid and body

#### Design Options

1. The equipment shaft may be rotated at a maximum speed of 6000 RPM.
2. The use of an alternative DXE Radial Lid design casting.
3. The markings to be engraved onto alternative lid designs or applied to a stainless steel plate that is secured to the equipment by fasteners
4. D\*XX-XXXX-XXXX is the product code where D\* is either DE to indicate -20°C type or DL for -40°C type, XX-XXXX-XXXX refers to the electronic circuit, connection and resolution

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. The fasteners used in this equipment are 316 stainless steel, M4 x 10mm hexagon socket head screws with a minimum yield stress of 450 N/mm<sup>2</sup>. If replacement fasteners are required they must have the same or better properties.



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 09.0129X

Date of Issue: 2015-06-16

Issue No.: 2

Page 4 of 5

## EQUIPMENT(continued):

### Conditions of manufacture

The Manufacturer shall comply with the following:

1. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.
2. Only the line bushing certified as IECEx EPS 11.0004X manufactured by Quintex GmbH may be used in this equipment, and specifically only the variant of that bushing rated as T6.
3. The terminal block type TOP1.5GS 08/180 5.08 manufactured by Weidmuller Interface GmbH & Co, as detailed in certificate DEMKO 03ATEX134439U, is only suitable for use with ATEX variants of the Shaft Encoder, and may not be used in IECEx variants.



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 09.0129X

Date of Issue: 2015-06-16

Issue No.: 2

Page 5 of 5

## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

<b>Issue 1 – for changes refer to Issue 1</b>	
<b>Issue 2 – this Issue introduced the following changes:</b>	
1.	The manufacturer's Part Code System was updated; the new codes use 'D' or 'T' to identify the Series Type and 'E' or 'L' to distinguish between the different, applicable Temperature Ratings.
2.	The manufacturer has supplied a new label drawing; EX-LB-DXTX-01, which replaces the following: EX-LB-DX1-01                      EX-LB-TX1-01                      DXE-LB-03 IX-LB-DX1-01                      IX-LB-TX1-01                      DXE-LB-02
3.	Drawing EX-AS-DX1-01 sheet 3 of 9 was amended with the addition of notes to clarify the paint thickness and the amount of light metals in the equipment, these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
4.	The manufacturer has specified an alternative line bushing (the Type LB* * * * *) certified as IECEx EPS 11.0004X, which replaces the original Type LE* * * * *. Both are manufactured by Quintex GmbH. A 'Condition of Manufacture' has been added to the certificates to support this change
5.	The manufacturer has clarified which previously certified terminal blocks are to be used in each variant of the equipment.
6.	Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0 Edition 5, IEC 60079-1 Edition 6 and IEC 60079-31 Edition 1 were replaced by IEC 60079-0 Edition 6, IEC 60079-1 Edition 7 and IEC 60079-31: Ed 2, the markings were updated accordingly, as a result of the assessment, a Condition of Certification was introduced and therefore an 'X' suffix was added to the certificate number.
The separately certified components detailed in previous variations have been updated as follows:	
	Previously certified flameproof line bushing Type LE* * * * * certified as EPS 08ATEX1105X has been replaced by the line bushing type LB* * * * *, certified as IECEx EPS 11.0004X. Both line bushings are manufactured by Quintex GmbH.
	Previously certified terminal block Type TOP1.5GS 08/180 5.08 manufactured by Weidmuller Interface GmbH & Co as detailed in certificate DEMKO 03ATEX134439U remains unchanged. This terminal block type is for use in ATEX variants of the shaft encoder only.
	Previously certified terminal block Type 256-408/000-009/999-950 manufactured by WAGO as detailed in certificates IECEx PTB 06.0042U also remains unchanged. This terminal block type is for use in ATEX and IECEx variants of the shaft encoder.